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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,806	07/28/2003	In-Hwan Lee	P-0549	4339
34610	7590	06/14/2005	EXAMINER	
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153			CHUNG TRANS, XUONG MY	
			ART UNIT	PAPER NUMBER
			2833	

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/627,806

Applicant(s)

LEE, IN-HWAN

Examiner

Xuong M. Chung-Trans

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/28/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This application has been examined. Claims 1-27 are pending in this application.
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-3, 11-15 and 21-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Kato et al. (USPTO 6,447,314).

As per claims 1-3, Kato discloses in figs. 12(a-c) a flexible printed circuit board (FPCB) connection mechanism (119) configured to electrically connect two bodies (121,127) of a foldable type handset, the FPCB connection mechanism, comprising: a first connector (137,135) connected to one end of a first FPCB (143); and

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a second connector (131,133) rotatably coupled to the first connector 135, wherein the second connector is configured to connect to one end of a second FPCB (129); wherein the first connector (137,135) is configured to be installed on a first body (121) and the second connector (131,133) is configured to be installed on a second body (127); wherein the first connector (135) is formed in a substantially cylindrical shape with a connecting hole formed in the longitudinal direction thereof, and wherein the second connector comprises a connecting protrusion (133) formed in a substantially cylindrical shape configured to correspond to the connecting hole of the first connector, wherein the connecting protrusion (133) is configured to be rotatably inserted into the connecting hole. See figs. 12(a-c) and col. 7, line 45 to col. 8, line 10.

As per claims 11-12, Kato discloses a flexible printed circuit board (FPCB) connection mechanism, comprising: a first (second) FPCB (129,143); and a coupler (133,135) configured to rotatably couple the first (second) FPCB (129, 143), and to provide an electrical connection between the first (second) FPCB; wherein the first (second) FPCB is configured to be installed on a first (second) body, and wherein the coupler is further configured to maintain an electrical connection between the first FPCB and the second FPCB when the first body and the second body are rotated relative to one another. See figs. 12(a-c) and col. 7, line 45 to col. 8, line 10.

As per claims 13-15, these claims recite subject matter similar to claims 1-3; therefore, they are rejected under the similar rationale.

As per claim 21, Kato discloses, figs. 12(a-c) and 17, an apparatus, comprising: a first (second) body (121,127) having a first (second) electronic circuitry (261,123); and

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a coupler (235) that couples the first (second) body such that at least one of the first and second bodies are rotatable around the coupler, wherein the coupler includes an electrical connector (247,249) to allow coupling between the first and second electronic circuitries.

As per claims 22-24, these claims recite subject matter similar to claims 1-3 and 13-15; therefore, they are rejected under the similar rationale.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4-10 16-20 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable by Kato et al. (USPTO 6,447,314) in view of Gordon (USPN 3,860,312).

As per claims 4, 16 and 25, Kato does not explicitly disclose that the first connector further comprises a plurality of first electrodes arranged on an inner circumferential surface of the connecting hole, and wherein the second connector further comprises a plurality of second electrodes arranged on an outer circumferential surface of the connecting protrusion, and wherein the plurality of first and second electrodes are configured to contact each other when the first connector and the second connector are coupled. Gordon, however, teaches such features (see col. 3, line 43 to

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col. 4, line 53). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the teaching of Gordon in the Kato invention to produce the claimed invention because Gordon specifically teaches that such electrodes arranged on an inner circumferential surface of the outer connector and arranged on an outer circumferential surface of the inner connector are provided to achieve a rotary coupling and provided electrical continuity therebetween the outer and inner connectors. (See col. 1, lines 11-18).

As per claims 5-10, 17-20, and 26-27, Kato discloses in fig. 17 the first (second) connector (229,231) further comprises a first (second) slot (247,249) formed on an outer circumferential surface thereof, said first (second) slot configured to receive an electrode pin (243,245) formed extended at one end of the first (second) FPCB (239,241, 251,253); wherein the first (second) slot is configured to be electrically connected to the plurality of first (second) electrodes; wherein the second connector further comprises a second slot formed on an outer circumferential surface thereof, said second slot configured to receive an electrode pin formed extended at one end of the second FPCB; wherein the second slot is configured to be electrically connected to the plurality of second electrodes. See col. 10, lines 10-51.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The other references cited on form 892 disclose similar hinge connector.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xuong M. Chung-Trans whose telephone number is (571) 272-2002. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula Bradley can be reached on (571) 272-2800 extension 33.. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Xuong M. Chung-trans  
Patent Examiner  
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